EDLD 5364 – Teaching With Technology

Course Embedded Reflection

I never dreamed how much I could learn in this course. Through the course videos and the course articles during these past five weeks, we were able to examine the difference between classrooms utilizing technology resources as part of classroom instruction and classrooms that do not use technology as part of their classroom instruction. We explored three different learning theories. We learned that Bygotski, a Russian psychologist developed the concept of constructivism which is the ability for a learner to gain new information from instruction, through reading, hearing, or collaborating about this new information. While the learner is gaining new information, they are combining their prior knowledge with the new information to create new knowledge, so sometimes this process is also referred to as constructing new knowledge. We also learned about the learning theory called connectivism where learning becomes a more constant process and the practice of knowing where to find knowledge from various resources. It also includes acquiring knowledge from other associations with individuals, social interaction, and technology-based resources. The Cyborg theory studied the way humans and machines interact with one another. This theory shows that there is a correlation between the effects that technology devices have on humans gaining knowledge. Student learning is impacted by listening to videos, exploring reading, and digging deeper into research resources and this impact affects the amount of information that students will learn.

Our coursework also discussed studies that have been done to seek out the best methods for technology usage to support learning. One-way learning such as books, blackboards, and other one way communications such as TV and radio are not as effective to support learning in the classroom. Students need to have more control over their individual learning process. A curriculum rich in technology can be utilized to assist the learning process of at-risk students and students with modifications. Students learn through the vivid images and sounds that better meet all students’ needs. Our schools today contain a very diverse population of students. I teach at a Title I campus and we face the many challenges of reaching this diverse population of students every day. Our campus also houses an ABU unit and accommodates for students with severe disabilities. Our principal reminds us often not to ever give up on a student. Keep making every effort to search for ways to keep all of our students engaged. We rely more than ever on technology to keep up with the constant changes in our student populations.

Social networking technology and other emerging technologies are becoming prevalent in our educational process. Social networking has become very controversial due to the fear that many educators have about these new emerging technologies. But, social networking is not just used for enjoyment in today’s society. It has also moved into the corporate world becoming a tool for them to attract employees, market their products, and even find vendors / manufacturers. It becomes necessary to include this technical phenomenon into the education process. This makes it our responsibility to educate our learners on new technology advances so that they may be ready for the 21st century job market.

We also learned in this course that it is important for teachers to establish instructional goals for students and these goals and objectives need to be measurable. Teachers want their students to be successful. The purpose of setting goals and objectives is to ensure that learning is outlined clearly for the students. These goals and objectives need to be attainable for the students and need to meet the state required standards. These goals and objectives need to be clear, specific, and appropriate for assessment. Technology can be successfully utilized to support the goal setting process. Technology is a powerful tool that can give teachers access to many resources that can not only help them in the classroom but can also help them in meeting standards and objectives.

It has also been found that technology integration strategies impact student motivation and self esteem. Classrooms are more diverse than ever before. Some students struggle to learn due to emotional and behavioral problems. There are ESL students in these classrooms that have difficulty understanding due to a language barrier. All of these student difficulties can result in student lack of interest. Teachers want all their students to succeed, but each student is unique and they realize that the one size fits all approach does not work for all students because every student has a different learning style. Teachers have to become creative in their teaching methods and find alternate methods of teaching. Technology integration not only improves student motivation and ultimately improves their self esteem. We find that everyone’s brain processes information differently. They have different methods of acquiring their knowledge and information. Technology integration provides learners with different methods of showing and illustrating that they can learn and know the information from the lessons. It has been proven that technology also positively impacts student learners in low-achieving, at-risk groups. All students learn differently and students bring different prior knowledge and experience to the classroom with them. Technology helps give us the ability to provide many collaborative learner-center methods for students to learn in and these methods have proven to work in the classroom and the students benefit greatly from the process  
 In this course, we learned that UDL is a philosophy that enables teachers to re-examine the critical components of education—like instructional materials, objectives, methods, assessments, and such to design rich lessons that incorporate multiple ways of gaining information and knowledge. Teaching with technology can positively impact diverse student learning when teachers select the right tools to support learning goals.  **We used the UDL lesson builder to design our lesson plans for our group project. “The Universal Design for Learning (UDL)** recognizes that every learner is unique and processes information differently. UDL is based on CAST's research related to three primary brain networks (recognition network, strategic network, and affective network) and the roles they play in understanding these differences.” “UDL provides a framework to create and implement lessons with flexible goals, methods, materials, and assessments that support learning for all students” (Cast, 2009). We understand that we cannot categorize learners into types such as intelligent or unintelligent. Brain research has been conducted and it tells us about all learner distinctions. This research helps us have a better understanding of how learners process words and information. The brain is very complex and contains neurons that are linked by trillions of connections. This creates a very complex network. With this huge brain network and complexity, it is understandable that no one’s brain functions in exactly the same manner. Everyone’s brain processes information differently, so it is necessary that we should appreciate the individual strengths and weaknesses of each and every student. We have to differentiate our teaching methods to assure that we can reach each student. Different students learn to read and the recognition process is different for individual students. According to our readings this week, recognition involves various types of processing. This processing of information determines how our students will learn the material that we teach. It is necessary that we recognize the individual differences in our learners so that we can shape instruction to reach all of students. This week were given classroom examples to obtain a better understanding of how varied influences of strategic networks on students’ performance in the classroom. We have to tailor our teaching style to meet the needs of all students.

The approach of providing feedback focuses on assessment and technology tools are advantageous when obtaining this feedback from our students. There are many technology tools available for educators that can assist with assessment and data collection. For example, there are wireless clicker devices which allow teachers to assess student’s knowledge and these classroom response systems allow for teachers to begin discussions with their classes about questions that might have been asked. Students have the opportunity to learn from the class discussion. There are also various types of grading software available and many web resources that can assist in the learning process. There are also communication software tools that can allow for student input and feedback. Some of the communication tools are wikis, blogs, email, video conferencing, and instant messaging. There are many technology tools available to teachers to assist with the classroom process and provide successful feedback for our students. UDL helps make it feasible to complete ongoing assessment that may better meet individual needs. Students have different learning styles and it is important that teachers fine effective methods to meet these individual needs. It is important to assess often to get feedback from students to see teachers are giving effective instruction for all the students. It is also important for accurate assessment. Sometimes we need to provide different types and methods of assessment to meet the students’ individual learning differences

We also focused on the professional development that best provides teachers with the tools to implement various types of technology for their classrooms. We took time to look at different types of professional development and the training methods that would work best to help and support teachers in diverse learning communities. We also focused on the importance of incorporating cooperative learning groups. When students work together in cooperative learning groups they are able to share prior knowledge and build new knowledge about the content area together. Our students that we are educating today will more so than ever, be involved and possibly working in the global community. It is our responsibility to prepare our students for this type of working environment. They will be working in cooperative environments and will need to be prepared to function effectively and successfully. Our students will be living and working in virtual environments and will be expected to function effectively. They will need to possess the tools that it takes to make this happen. They will need to understand the methods to use blogs, Wikis, online coursework, instant messaging, voice and video so they can function successfully in the global community. Our video clips this week gave us the opportunity to look at resources available to us and allowed us to learn more about cooperative and collaborative teaching methods. The McRel Technology Initiative discusses the reasons that “McREL decided to create and test a comprehensive, research-based model of professional development that helps teachers integrate technology into their classroom instruction, and ultimately, helps students achieve challenging content standards” Pitler (2005, p. 1). This article discusses that we need to provide professional development for teachers and that schools need to make technology a major part of their curriculum. But in order for teachers to utilize the technology tools provided them, we need proper technology professional development so that they can implement the technology in their classrooms. Schools can be identified as possible site for MTS intervention. These schools are provided with mentoring, workshops, online meetings, and surveys to appropriately address their needs.

We need to prepare our students for the future. As educators, we need to design student-centered instruction and integrate with technology. If we use all the resources, tools, and technology practices available to us, we will be able to better prepare our students for the future global community.

During this course, we worked as members of a five person study group working collaboratively to solve a campus scenario. Our group consisted of Amy Zbylut, Gregory Gedeon, Joyce Howard, Regina Jackson, and me. Our Group Project Task was to model how technology can positively impact student achievement for diverse learners. As a school-based expert, we were given the opportunity to model how technology could positively impact student achievement for diverse learners. Our learning team was given the task of being a school based expert directed by the principal to work with a classroom teacher to create learning experiences that could not only meet the needs of a very diverse classroom community, but also address 21st Century learning trends. Some of the students in the classroom had very unique needs. With a classroom of 30 students, 10 of these students were identified as gifted and talented along with two students that had extreme disabilities of blindness and a hearing-impaired disability. Eighteen students had varied needs ranging from the lowest to high levels of achievement. The teacher in this very diverse classroom had minimal understanding of how to teach with technology to benefit student learning. Our team met during a skype conference to determine what our group goal would be. After group reflection, it was determined that we had the most group experience in the area of 8th grade science and we would address the 8th grade TEKS objectives relating to natural events impacting Earth systems, the rock cycle process and the earth's physical changes due to erosion and weathering, and plate tectonics. We easily divided our project into separate tasks that we were each responsible for. Each one of our group members readily took on their individual responsibilities and began to complete their tasks dealing with their particular content area. Our Google site offered easy accessibility to our project and the Action Planning area provided an area where we could type our plans to collaborate with each other. We checked all aspects of the 8th grade science TEKS and technology TEKS to make sure that we met all state standards in these necessary areas. Each group member prepared their own UDL lesson and then posted learning activities, technology products, and eBooks that related to their particular lessons, goals, and objectives. We each worked carefully to include 21st century tools and embedded these in our UDLs. A couple of our group members chose to use Glogster to illustrate their UDLs. We also took time to make sure that we used strategies that would work specifically with the students that had special learning needs. Each group member began diligently preparing their information, making their posts, and searching for creative methods to integrate technology into the lessons to provide for best methods to utilize technology to benefit student learning in this very diverse classroom. We were also aware (acting as the tech leader) as we progressed with planning for the classroom scenario, that we would need to meet the professional development needs of this teacher that had minimal understanding of how to teach with technology. Our group members included professional development training to each UDL lesson to assure that the teacher would have easy access to the tools and information needed to adequately address his/her needs for technology instructions and training. Each of our UDLs included assessments, re-teach opportunities, and enrichment lessons that would allow for feedback and assured learner understanding of the content and subject area. We filled our UDLs with technology rich activities to provide for learner centered learning environments. The students would easily be able to share their prior knowledge, review concepts, and acquire new knowledge to help them gain a better understanding of the essential learning. After each group member completed posting their UDLs / individual glogs and provided associated lesson introduction, learning activities, hands on activities, 21st century technology tools, guided practice explanation, independent practice explanation, formative/ongoing assessment, and summative/end of lesson assessment, our project was posted to the unit glog. We also provided materials and possible teacher professional development opportunities in our unit plan. Our team chose to solve the scenario by creating a team glogster that would assist an 8th Grade Science teacher. Our solution and learning activities would allow the teacher to integrate technology to meet his/her Unit Objectives: The student knows that natural events can impact Earth systems (TEK 8.9). The Team Solution Glogster: Natural Events Impacting Earth Systems was developed. Each group member attached learning activities and technology products and links to our team Google site. These links contained additional resources and files that were included and embedded with each group members Unit and individual UDL lessons. Each group member also created an ebook that would assist the teacher in the group scenario. All of these group contributions and downloads were posted to our group Google site.

My individual UDL focused on the Introductory Rock Cycle Lesson introducing the Rock Cycle and background information. Each of our team members created individual UDL lessons as discussed in our Skype conference. Based on the scenario and teacher’s limited technology experience, this allowed the teacher to become familiar with and have adequate time to explore the unit and embedded 21st Century tools. We decided to use technology to teach technology. We chose several key technologies that incorporate the collaboration aspect for 21st century learning to place in our learning activities section of our Google site. A few skills that we needed to address were integrating Web 2.0 tools such as Wikispaces and Google docs, UDL Lesson Plans, UDL Book Builder, Glogster development. The UDL lesson plan builder was very user friendly and could be useful for any teacher to utilize for lesson plan development. “UDL does more than insist on flexibility; it provides teachers with the information and resources they need to achieve it” (Rose, D., & Meyer, A., 2002, Chapter 4). Our team project allowed us the flexibility to be creative thinkers while creating a UDL unit that would simplify a classroom teacher’s integration of technology. We were able to provide the teacher with the resources that he/she needed to achieve an engaging learning environment through technology integration.

Our group used another Web 2.0 tool, the UDL Book Builder to design e-books. Each of our group members created an e-book to accompany their portion of the unit. I created a book called Rock n Roll – The Story of the Rock Cycle. The book was created with sound and could be utilized with the blind students. The book builder site did allow for the content of a book creation to satisfy a specific content area. At times, the site was not as user friendly as the user might need it to be. The books were colorful and could allow images to be placed in the books as necessary.

Our Team Google site allowed for our team to have easy access and to readily be able to add learning activities and technology tools as needed. Our team project allowed us the flexibility to be creative thinkers while creating a UDL unit that would simplify a classroom teacher’s integration of technology. We were able to provide the teacher with the resources that he/she needed to achieve an engaging learning environment through technology integration. By creating our team glog, we gave the teacher flexibility in using a variety of resources that were all accessible from one Glogster poster. Our team’s collaborative experiences are an epitome of Pitler’s statement, "web-enabled collaborative learning has evolved dramatically from its initial use as a simple way for students to look up information together on Web sites" (Pitler, 2007, p.144). The activities and collaboration throughout this project has allowed us to evolve as technology leaders. Throughout this collaborative team project we have used new technologies that gave us the “opportunity to respond to the multifaceted individual differences in our student population by providing more varied media, tools, and methods” (Rose, D., & Meyer, A., 2002, Chapter 1).

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